CHAPTER 3
PREPARATION FOR OPERATION (PMCS)
LESSON PLAN 3

METHOD:

Conference, demonstration and practical exercise

TIME ALLOTTED:

1.0 hour

COURSE PRESENTED TO:

a. Tank crews
b. Instructors
c. TSC personnel

TOOLS, EQUIPMENT, AND MATERIALS (Per Tank Crew):

a. One TWGSS set
b. TM 9-6920-709-12&P-1-1
c. Expendable/durable items (see Appendix D, TM 9-6920-709-12&P-1-1)
d. DA Form 2404
e. DA Form 2402

PERSONNEL:

a. Primary instructor
b. Assistant instructor

INSTRUCTIONAL AIDS:

a. Overhead projector
b. Viewgraphs (Appendix A)

REFERENCES:

TM 9-6920-709-12&P-1-1, Chapter 3

APPENDICES:

Appendix A. Viewgraphs

3-1. INTRODUCTION. (5 minutes)

Note. Show Slide 1.

a. **Reason.** Training hours are lost when unit personnel draw training equipment that is incomplete or unserviceable. Many of these hours could be saved if unit personnel know what to look for and how to check the equipment. During this class you will learn what to look for when conducting a pre-installation check (PMCS) of TWGSS equipment.

Note. Show Slide 2.

b. **Training Objective.** Given a TWGSS set packed in its storage cases and TM 9-6920-709-12&P-1-1, you will demonstrate the ability to properly handle, identify, and conduct pre-installation checks (PMCS) of TWGSS components IAW TM 9-6920-709-12&P-1-1, Chapter 3.

c. **Procedure.** During this block of instruction we will discuss how to handle, transport and inspect the TWGSS components prior to installation of the system. You will have an assistant (small group) instructor for the practical exercise portion of this class.

3-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE. (50 minutes)

Notes.
1. The primary instructor now releases the student crews to their assigned assistant (small group) instructors.
2. Prior to students' arrival, ensure an assistant instructor is assigned to each training station.
3. Direct students to their appropriate training station.
4. Each assistant instructor is to conduct a safety briefing for his small group outling safety concerns and requirements when handling TWGSS components.
5. Whenever possible, have the students serve as demonstrators during small group instruction. Have one student read the procedures while another student performs the task. To ensure all students get equal hands-on time, rotate the reading and performance responsibilities.
6. The assistant instructor discusses and clarifies the procedures as required and reinforces the training objective.

a. **Safety Concerns and Requirements.**

(1) Always use two people when handling the storage cases.
(2) Ensure the storage cases are closed and secured in vehicles during transportation.
(3) When handling TWGSS components, use care and always transport components in the appropriate container.
(4) Do not stack TWGSS storage cases more than four high.

3-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

b. **Initial Inspection of TWGSS.**

(1) TWGSS components are stored and shipped in two storage cases. Check that these cases are closed and latched during storage or shipment.
(2) To prevent damage, TWGSS components should not be stored out of the storage cases. Do not remove equipment from the case until needed for installation.
(3) During training, store the storage cases IAW unit SOP to prevent damage.
(4) During transportation, do not stack storage cases more than four high and ensure the cases are properly secured.
(5) Upon receipt of a TWGSS set, use inventory checklist in each storage case to ensure all components are present.
(6) Check the general condition and cleanliness of the equipment.
(7) Inspect the storage cases for missing or broken handles, locking latches, and hinges to ensure equipment will be secure during transportation.

c. **Before Operation Preventive Maintenance Checks and Services (PMCS).**

(1) **General PMCS procedures.** If any deficiencies are discovered during visual inspection ensure you:

(a) Consult TM 9-6920-709-12&P-1-1, Chapter 3 to determine if component is considered Not Mission Capable (NMC).
(b) Tag component with the problem discovered, using DA Form 2402.
(c) Report failure on DA Form 2404.
(d) Return component to Training Support Center (TSC).

(2) **General inspections checks.** Perform the following general inspection checks on all external and internal components:

(a) Visually inspect components for damaged or missing parts.
(b) Inspect connectors for damage, foreign objects, and bent or damaged pins.
(c) Verifiy all decals and markings are present and legible.
(d) Inspect components for damaged or missing dust caps.

(3) **Visual inspection of external components.**

(a) Transceiver unit.

Caution. Always ensure that transceiver unit locking handle is locked to 120 mm adapter. Failure to follow this caution may result in transceiver unit falling out of adapter and becoming damaged.

3-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

1. Check lens for damage or cracks. If lens is dirty, wipe with lens paper moistened with lens cleaning compound.
2. Inspect locking handle for damage.
3. Inspect expansion rings for damage.
4. Check that moisture indicator color is blue or light blue. Red or pink indicates moisture.

Note. Transceiver unit will rattle (if gently shaken) if shock sensor is tripped .

5. Check if the shock sensor has been tripped.
6. Inspect 120 mm adapter for damage.

(b) TBOS driver assembly.

1. Check that moisture indicator color is blue or light blue. Red or pink indicates moisture.
2. Inspect rubber pads for damage.
3. Inspect protective bag for damage.

(c) TBOS GAS assembly.

1. Check optics for damage or cracks.
2. Inspect rubber pads for damage.
3. Visually check for moisture inside of unit.

(d) Target computer assembly.

1. Check that moisture indicator color is blue or light blue. Red or pink indicates moisture.
2. Inspect rubber pads for damage.
3. Inspect protective bag for damage.

(e) Retro detector assembly (right- and left-front).

1. Check reflectors and detectors for damage or cracks.
2. Check strobe light for damage.
3. Inspect rubber pads of mounting bracket for damage.

(f) Hull defilade detector unit (right- and left-front).

1. Check detectors for damage or cracks.
2. Inspect cable for damage.

3-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

(g) Retro detector assembly (right- and left-rear).

1. Check reflectors and detectors for damage or cracks.
2. Check strobe light for damage.
3. Inspect cables for damage.
4. Inspect rubber pads of mounting bracket for damage.

(h) Remote system interface (RSI) assembly.

1. Check that moisture indicator color is blue or light blue. Red or pink indicates moisture.
2. Inspect rubber pads of mounting bracket for damage.
3. Inspect protective bag for damage.
4. Inspect antenna and cable for damage.
5. Inspect connectors for damage and bent or damaged pins.

(4) **Visual inspection of interior components.**

(a) Turret position sensor. Inspect IAW general inspection checks.
(b) Loader's panel. Check pushbuttons for damage.
(c) TIS junction box.

1. Inspect J1 connector cap for damage.
2. Check that moisture indicator color is blue or light blue. Red or pink indicates moisture.

(d) Vehicle interface assembly.

Note. Vehicle interface assembly consists of vehicle interface unit; TBOS video mixer unit; W4, W8, W9, and W10 cables; and vehicle interface assembly bracket.

1. Check that moisture indicators color is blue or light blue. Red or pink indicates moisture.
2. Check that each unit is securely attached to bracket.
3. Inspect cables for damage.
4. Inspect cable connectors on units and both ends of cables for damage, foreign objects, and bent or damaged pins.
5. Inspect cables for damaged or missing dust caps.
6. Inspect cables for damaged or missing velcro straps.

3-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

(e) Control panel.

Note. Moisture indicator is located in upper right corner of control panel display screen.

1. Check that moisture indicator color is blue or light blue. Red or pink indicates moisture.
2. Check pushbuttons for damage.
3. Inspect cable for damage.
4. Inspect cable for damaged or missing dust cap.
5. Check that eject button moves freely.

(f) Loader's hatch grommet. Inspect IAW general inspection checks.

(5) **Visual inspection of cables.**

Note. The remaining cables are W1, W2, W3, W5, W6, W7, W11, and W12.

(a) General inspection checks. Perform the following general inspection checks on all cables:

1. Inspect cable material for damage.
2. Inspect for damaged or missing dust caps.
3. Inspect connectors for damage, foreign objects, and bent or damaged pins.
4. Verify all labels and markings are present and legible.
5. Inspect cables for missing or damaged velcro straps.

(b) W2 cable. Inspect for damaged or missing magnets (3 each).
(c) W3 cable. Inspect for damaged or missing magnets (2 each).
(d) W11 cable. Inspect for damaged circuit box.

3-3. FINAL REVIEW. (5 minutes)

a. **Student Questions.**

Note. Show Slide 3.

b. **Summary of Main Teaching Points.**

(1) Safety concerns and requirements
(2) Inspection of TWGSS:

(a) Upon receipt

3-2. CONFERENCE/DEMONSTRATION/PRACTICAL EXERCISE (Con't).

(b) External components
(c) Interior components
(d) Cables

Note. Show Slide 4.

c. **Closing Statement.** This block of instruction has taught you how to inspect, handle, and identify deficiencies with TWGSS components prior to installation. The knowledge gained in this class will help your unit train more effectively with TWGSS.

APPENDIX A
TO LESSON PLAN 3

PREPARATION FOR OPERATION

VIEWGRAPHS